

[page 4-Serial No. 08/394 228]

another intermetallic compound includes Ag and Sn.

20
26. (Twice Amended) In a soldering process involving solidifying a molten solder, the improvement comprising solidifying a Pb-free solder consisting of about 3.6 to about 4.7 weight % Ag, about 0.9 to about 1.7 weight % Cu and the balance Sn in an amount to promote formation of intermetallic compounds that improve solder [wettability on electrical conductor material in ambient air or under inert gas cover] strength and fatigue resistance, said solidified solder having a microstructure comprising a beta Sn matrix and at least two intermetallic compounds dispersed in the matrix wherein one intermetallic compound includes Cu and Sn and another intermetallic compound includes Ag and Sn.

REMARKS

This preliminary response is offered in reply to the Advisory Action of February 10, 1995, in parent application Serial No. 08/094 854.

The Advisory Action indicated that the terminology "free of Ti, V, and Zr" is a new issue and may also be new matter. In response, Applicants have amended the claims of this file wrapper continuing application to remove the objected to terminology from the claims.

Further, the Advisory Action indicated that the terminology involving providing Sn to promote wettability is new matter, although the technical article forwarded with the Response Under 37 CFR 1.116 indicated that such compounds do promote wettability. Applicants have amended the pending claims to recite that the Sn is present in the recited composition to promote formation of intermetallic compounds that improve solder strength and fatigue resistance as described at page 13 of the specification. As previously pointed out by Applicants in their Response Under 37 CFR 1.116, the disclosure of which is incorporated herein, Applicants believe the cited reference patents fail to disclose Applicants' claimed solder composition, joint, and process wherein the solder composition promotes formation of intermetallic compounds to this end.

Still further, the Advisory Action indicated that the recitation of a liquid plus solid mushy temperature range was objectionable under Section 112 as a result of the term "mushy". Applicants have amended the claims to remove "mushy" to overcome this objection.

24

page 5-Serial No. 08/394 228

Applicants respectfully request reconsideration of the pending claims and allowance thereof.

Respectfully submitted,

Edward J. Timmer
Edward J. Timmer Reg. No. 27 402

Walnut Woods Centre
5955 W. Main Street
Kalamazoo, MI 49009
1-616-353-8807

CERTIFICATE OF FACSIMILE TRANSMISSION

I hereby certify that this correspondence is being facsimile transmitted to the Patent and Trademark Office on the date shown below.

Signature: Edward J. Timmer Date: March 31, 1995
Edward J. Timmer